THE STORY-TELLER.

HOW DID SHE KNOW.

By Marie Louise Pool.

(TO BE CONTINUED).

'It is a fool's errand,' I said to myself, 'but I will go, for I have promised.'

She wished me to take money for my expenses, but I did not quite wish to do that.

'I shall not see you again until I come to tell you what luck I have had,' I said, and bade her good-bye.

It was easy to see that there was unusual animation in her manner.

Salome, the maid, came to let me out at the street door.

'Has Miss Sidonie been asking you to go to New York?' she asked, respectfully.

'Yes.'

'It is her mania. You told her you would go?'

'Yes.'

'That is right. It is the only way,' she returned.

I did not tell Salome that I had not only said I was going, but that I intended to keep my word.

As I threw off my bonnet in my own room exclaimed at the folly in having so solemnly promised Sidonie Pace. But it did not occur to me to break the engagement I had made with her. I could not see how anyone could look in that noble and suffering face and utter any untruth. Did the snpposition that she was not wholly sane exonerate anyone from such guilt? Had I done a very foolish doing? Well,it only involved a journey that I would make as comfortably as I could. Was she insane? But why should I doubt that? This very idea of hers that she kuew where her old lover was surely indicated sufficient that her mind was unbalanced.

I must be getting to be a demented old woman in that I had undertaken so foolish an errand as this. I was quite sure that I would at least refrain from telling anyone of my intention.

The next morning I took the Washington bound train. I remained over night in that city, and in the morning I strolled about the Capitol, pretending that I was interested in the lovely prospect before me. In reality, I saw nothing but the face and figure of Sidonie Pace: I heard nothing but her thrilling and pathetic voice. Perhaps when I had really been to that house in Fifty-third street the girl—for I still called her that—would take my word that her lover was not there, and that delusion might finally drop from her. I would be honest with her, at any rate. It occured to me that perhaps her father really had been to New York, as he said to her. How could she know so positively? Would she say to me also that I lied to her when I should return and tell her the disappointing truth?

In New York I took a carriage at the ferry and was taken to Fifty-third street. I sent off the driver and mounted the steps alone, and rang the bell. A manservant opened the door, and of him I asked if Everard Adams lived there.

'Mr. Adams? No ma'am; don't know such a man.'

'Who does live here?' I inquired, resolved to be thorough in my inquiries.

'Mr. Irving' There he is now.'

I turned. A gentleman was mounting the steps. He took off his hat and asked if he could anything for me.

'I was enquiring if Mr. Everard Adams lived here,' I repeated.

He looked at me in silence an instant; then he said: 'Will you oblige me by coming in for a moment?'

He led the way into a sort of reception-room, and placed a chair for me. He did not himself sit down, however.

Was it possible that this gentleman could tell me anything? It seemed so. The effort to adjust my mind to such a possibility made me far from calm. The stranger stood before me and asked:

'Whose name did you mention? Perhaps I was mistaken.'

The somewhat florid face had assuredly lost something of its colour; the handsome brown eyes appeared to have a startled look in them.

I said again the name of the man I was looking.

'How came you to think of coming here and enquiring for that man? he asked with a harsh intonation.

'I came out of kindness to Sidonie Pace,' I answered.

I saw his hands suddenly shut tightly. He turned away and exclaimed;

'Good God! Sidonie Pace? Sidonie!

There was no mistakiug the passionate tenderness of the last utterance of her name.

I rose, anger in my heart, to see this prosperous man in his lovely home, and to think of the woman on whose behalf I had come.

'You are Everard Adams then,' I said, and I did not care if face and tone showed the contempt I felt. Little he cared for what I thought of him.

'Is she happy?' he asked. Then gently: 'I certainly hope she is happy; but it was long before I could bring myself to wish that she might be happy without me!'

Being a woman, of course my heart softened to him a little is he said those words in that tone. Briefly I related to him what I kdew. He did not speak while I told the story. I did not ask him for any explanation. A certain kindness of feeling kept growing for him: but I was sure I despised him for having failed that woman who sat day after day in her Richmond home and thought only of him, of the love and hope of her youth.

Adams had averted his head as he listened, and I only had a glimpse of his face, but that glimpse revealed something of the agony that was in his heart. My pity grew stronger and stronger.

The man before me was one of those whom women always and immediately like. He was tall and strong physically, but he had a peculiar gentleness in his bearing, an involuntary deference to you for being a woman, which never fails to touch a feminine heart.

He did not reply when I ceased speaking. After a moment he left the room, and returned with a small box like a despatch box in his hand. With a key attached to his watch-chain he unlocked this receptacle. Still in silence he drew out a folded paper, and handed it to me. I understood that I was to read the paper, and I unfolded it. It was short enough. I saw that it was dated years back'—in fact, when I came to reckon, it was a month after the battle Antietam.

"DEAR EVERARD: During all these months I have been thinking of you and me. It is of no use for us to hope for a future together. I can not make my father so unhappy, and I can almost beleive it to be a mistake to think we are suitable for each other Your joining the Northern army assures me of this when I give the subject calm thought. Let us forget, save to remember in friendliness.

"S. P."

I looked at the man before me. His face was now held firm in its lines. He extended a printed slip to me. I tried to think in a reasonable way as I read simply a notice of a marriage between Sidonie, daughter of Judge Pace, of Richmond, Va., and Captain Ralph Sarke, of North Carolina.

'That printed slip reached me six months after the letter,' said Adams, speaking huskily and with visible and pathetic effort toward tenderness. 'The letter I read as soon as I could hold it in my hand and command my mind sufficiently to understand anything. Having read it, the grief and shock sent me back again into the fever and unconciousness, and it was weeks before I knew enough even to hope that I should not recover. I did hope that most sincerely: but I was strong enough to get well in spite of my wounds and my ruined hopes.

'I had been terribly wounded in my head and in my side. I had fallen not near those whom I knew, but far removed from them. I was hit in the head first, and I became dazed. I have a faint remembrance of rushing off to one side, ahd then another bullet strvck me, and I sank down. Afterward I learned that a man living many miles back in the country found me before the battle was ended. Beside me lay his dead son. Beleiving us both dead, he took us into his waggon, and began the journey of thirty miles back into the woods. He told me afterward that he had a notion I looked something like the dead body beside me, and somewhat he couldn't leave me.

THE AGRICULTURIST

THE FUEL QUESTION.

[We have been handed the following letter for publication by Messrs. G. W. Macfarlane & Co., on the important question of the consumption of fuel on plantations, with the hope that it will be of interest to planters, engineers, sugar-boilers, agents, etc. throughout the country, and furthermore with the object of eliciting comments and suggestions from practical parties. It is a subject of paramount importance to the sugar interests of this Kingdom. The letter in question was written by Mr. Robert Catton, resident engineer in Honolulu, for Messrs. Mirrlees, Watson & Co., of Glasgow, and addressed to a friend of his living in Demarara. The letter was not written expressly for publication but having come under the notice of Mr. Macfarlane, he asked that it be allowed to be published, as it furnishes practical and intelligunt views on one of the main questions in connection with the sugar business.]

HONOLULU, 25th April, 1884.

My Dear A——

Thank you for the *Argosies*, the reading of which has suggested my sending you a few notes on the subject of "Megass as Fuel," as it has come under my observation in this and other countries.

I may begin with a few remarks on Mr. Coster's paper, "The Sugar Cane as Fuel," the value of which does not seem to me to make up for the great care which was evidently bestowed on its preparation. What benefit, for instance, is derived from calculations based on a crushing of 10 per cent? Why do you Demarara people persist in talking of the per centage *taken out of the cane?* for unless all your canes contain an equal proportion of woody fibre, I think it would be much more to the purpose to quote the percentage *left in the megass*; see the *Sugar Cane*, vol. xiv., pp 620, for a common sense exposition of this point. There are several of Mr. Coster's statements which I must take exception to. He says, quoting Rankine,—"The quantity of oxygen and hydrogen are to be left out of account in determining the heat generated by the combustion of fuel." Is it not more reasonable to say with Box—a more practical, if a less eminent man than Rankine, —"The presence of oxygen in a combustible containing hydrogen has the effect of reducing its heating power. * * * When oxygen is present, but in too small proportion to combine with the *whole* of the hydrogen it combines with one-eighth of its weight and leaves the rest as an *excess of hydrogen* which yields its due proportion of heat as before."? I see no absurdity in supposing that the heat necessary for the production of the oxy-hydrogen flame might be got from megass. That some approximation to it is got I know. Similarly I think Mr. Coster is too emphatic when he says "it cannot be possible" that sugar is made without any fuel beyond green megass. One may say, now-a-days, "it cannot be possible that two and two make five," and that is about as far as it is safe to go in the direction of negative prediction. What would you and I have said ten years ago, if some genius. Colonel True, may be, had come along with a fixing by which we could have sat in the hotel gallery and talked—according to the vendor—with somebody at Mahaica?

From the discussion which followed the reading of Mr. Coster's paper at the R. A. Society's meeting, it would appear that we are rather ahead of you in economy of fuel. I know of several estates here where the dried megass is more than sufficient to crush the cane and make the juice into sugar, and has consequently got to be carted away or otherwise disposed of. Most of these places use Double or Triple Effects, the adoption of which bids soon to be universal in the Sandwich Islands. I am not aware as to what extent concentration in *vacuo* obtains in Demarara, but I shall be surprised if you ever do much good in green megass burning without it.

The use of megass *alone* as fuel with open concentration, is confined to three or four estates in one district of Hawaii, where the cane is said to be very woody, and the juice very rich, —said, I should mention, by those who do not succeed so well with their fuel. I am inclined to give the credit, or most of it, to good management in providing ample houseroom, sufficiently ventilated to dry the megass without its heating, and a steady, regular supply of cane to the mill. The fire-grate area here is very large in proportion to the heating surface, which latter is small in comparison with the work done, the firing is, in fact, forced, and a better result would be had with more boiler power.

In considering the question of using dry megass as the only fuel, a few propositions, which I have come to consider as axioms, present themselves.

1. There should be ample boiler-power; to ascertain what that means I have adopted the following empirical formula: Cubic feet of water to be evaporated per hour in converting the juice into sugar,

x 1½ for open concentration.,
1 for vacuum "

equal to *effective* heating surface of boilers in square yards.

2. There should be a regular and sufficient supply of cane, and the same quantity of juice should be expressed every day.

3. The works should be so designed that the boiling-house may be shut up within an hour after the mill stops grinding for the day; much loss of fuel is caused by the irregular working consequent on the mill getting ahead of the rest of the apparatus.

4. There should be ample megass house-room; thus, if on a given estate, it is found that the megass takes three weeks to dry, there will be required room enough to hold the result, in megass, of three weeks grinding at least, and the house or houses should always be kept full. If from any cause the megass burned exceeds the megass made, accept the situation and make up the deficiency by burning other fuel before the arrears get too heavy. In other words, do not attempt to burn any megass that is not thoroughly dry, but find out why it is not dry at the expected time and remove the cause. The houses must be so ventilated as to prevent the fermentation and consequent deterioration of the megass, a result which will be arrived at by avoiding the packing of it. The megass resulting from the extraction of 3500 gallons of juice will occupy 3000 cubic feet of a well ventilated house, supposing the expression to have averaged 66 per cent. of the weight of the cane.

5. Much loss is incurred by faulty furnaces for, and careless firing with megass. As a rule, a very great deal of air enters by the furnace door. All the air required for combustion should go through the bars, every megass furnace having a hopper. Another fault is the difficulty of keeping the bars covered with fuel owing to their being out of reach and control of the fireman.

I see from the *Argosy* of March 1st, that "for at least two years we have been a most go-ahead colony in the matter of patent furnaces for burning megass, "and I am afraid some of my news will be stale. On the other hand it assures me that great interest is being taken in the question in Demerara."

We have several patents of the same kind here, the best advertised one being the Jarvis Furnace. This consists essentially of the boiler walls being extended in front of the boiler, and there arched over so as to form an oven. These walls are intersected longitudinally by air passages, in which the air is heated and passed into communication with the products of combustion through a hollow bridge wall with a perforated top, also through perforations in the sides of the furnace walls. This you will no doubt recognise as an adaptation of the late Sir Wm. Siemens' "regenerative construction;" the principle is all right, but the application of it in this case cannot yet be pronounced a perfect success. However, to show that there is something in it, and that the problem of economically burning green megass is in a fair way towards solution, I shall describe the place where a modification of the Jarvis Furnace is doing very well.

There are three pairs of compound boilers, each pair consisting of a Lancashire and a Multitubular boiler, set tandem; the furnace is in front of the Lancashire boiler; the flame goes underneath both and returns through the tubes and flues. The walls of the setting are intersected and perforated with air passages as already described. The modification consists in the substitution of the Spreckels & Moore for the original Jarvis grates, and those are made in the shape of hinged frames, carrying transverse fire-bars arranged something like the rungs of a step ladder, the air spaces being being about two inches wide. The the grate is adjusted to an angle of about 45 deg. (as sketched). The boilers are all 6 feet diameter; in one set the Lancashire is 19.6 ft, and the Multitubular 15.6 feet long; in the others 20 and 12 feet respectively. The mill is 30 feet by 60 feet, driven by a Putnam engine. There are six ordinary 500 gallons clarifiers and a large flat pan in which the juice is heated by steam and cleaned by skimming. Evaporating is done in a double effect, the pans of which are each 6 feet diameter and contain together 1600 feet of heating surface, exhaust steam alone being used. The vacuum pan is 7 feet diameter and about 10 feet deep, and there are four centrifugal machines. I saw all the machinery in motion with 60 pounds pressure of steam shown on the guages and plenty of fuel on hand. There was no trouble about burning the green megass, but I was doubtful about the supply of it being always equal to the demand. I am now assured, on good authority, that there has not been any lack of fuel, the only drawback having been the heating up by burning wood of the furnaces and flues required of a morning and more particularly after a stoppage, before the fires could be got thoroughly under way, and this trouble has now, I am told been got rid of. The arrangement of the machinery is not so good as it might be for economising steam, the boilers are too far from their work and the double effect too far from the cane engine, while it is doubtful whether the compound boiler is the best adapted for this system; so that I consider what has been done here is a great encouragement to further effort in the direction of economically burning megass direct from the rollers.

There are other two so-called patent furnaces here, that already mentioned as having the step-ladder grate, has a kind of automatic feed consisting of a short cane carrier arrangement, driven by a small independent engine, which conveys the green fuel between rollers from which it falls on to the grate and is burned with a result in steam very far short of that already described. The establishment using this arrangement—the mammoth Spreckelsville which was described in the *Sugar Cane* last year, I think—consumes a good deal of coal.*

The other patent only differs from the Jarvis in having the arched top of the furnace oven honey-combed to admit of air being heated there. Why two patents should have been issued for the same thing, is one of the mysteries of the Hawaiian Interior Department which we need'nt stop to explore.

Summing up my observations, I would say that in order to be independent of fuel other than green megass there are required (1) An oven furnace nearly if not altogether outside the boiler, with a large grate area on which the fuel should be evenly and thinly spread, this will ensure ignition and the formation of smoke or gas. (2) The introduction of heated air—the hotter the better—over and in front of the grate to effect ignition of that gas and the formation of a very hot, blue flame. (3) Boilers having the largest area of heating surface in the smallest space—multitubular boilers. Perhaps the greatest practical difficulty will be in the even distribution of the fuel on the grate, and that, I have thought, might be overcome by the use of a revolving endless chain-grate which forms part of what, I think, is known as the "Jackes'" Patent Furnace.

I would disclaim any idea of saving fuel by using green instead of dry megass, but I do think that a furnace such as I have indicated, will, with a triple effect, give as good a result with green fuel as an ordinary furnace with an open evaporator and dry fuel will,

*Since this article was written, Mr. Macfarlane informs us that he learns that coal has no been used by this estate under the new management.